What we claim is:

1. In a communication system including a primary receiver, a primary transmitter, and a repeater that applies a known distortion to a primary signal passing therethrough that identifies the repeater, where the primary receiver receives a first signal from the primary transmitter either directly or via the repeater, and where the first signal includes a primary signal and, if the first signal is received from the repeater, also includes a secondary signal that is a function of the primary signal and the known distortion applied by the repeater,

the method of determining if a signal received by the primary receiver is received directly from the primary transmitter or indirectly through the repeater, comprising the steps of:

receiving the first signal at the primary receiver;

outputting the primary signal from the primary receiver;

receiving the first signal at a secondary receiver and obtaining the primary signal from the primary receiver;

applying an inverse function to the first signal and the primary signal to retrieve a distortion; and

determining whether the first signal has been received from the repeater by comparison of the distortion and known distortions.

2. The method of Claim 1 wherein the communication system is a wireless communication system.

3. The method of Claim 1 wherein the primary receiver is a network analysis system.

4. The method of Claim 1 wherein the primary transmitter is a mobile unit.

5. The method of Claim 1, wherein the primary signal is an uplink signal.

6. The method of Claim 1, wherein the primary signal is a downlink signal.

7. The method of Claim 1, wherein the primary signal is amplified such that the ratio of the primary signal to the secondary signal is greater than unity.

8. The method of Claim 7, wherein the secondary signal is 9dB less than the primary signal.

9. The method of Claim 1, wherein the known distortion is additive noise.

10. The method of Claim 1, wherein the known distortion is an interfering signal.

11. The method of Claim 1, wherein the known distortion is applied additively.

12. The method of Claim 1, wherein the known distortion is applied multiplicatively.

13. The method of Claim 1, wherein the step of applying an inverse function further comprises applying a second inverse function to retrieve a second distortion; and the step of determining further comprises determining whether the first signal has also been received from another repeater by comparison of the second distortion and known distortions.

14. In a communication system including a first node, a second node, and a repeater, wherein the first node receives a first signal from the second node either directly or via the repeater, a method of applying a known distortion to a signal to enable a determination of a signal received by the first node is received directly from the second node or indirectly through the repeater, comprising the steps of:

at the repeater receiving a primary signal and creating a secondary signal as a function of the primary signal and a known distortion, wherein the known distortion identifies the repeater,

transmitting the primary signal injected with the secondary signal as the first signal to the primary receiver.

15. The method of Claim 14 wherein the communication system is a wireless communication system.

16. The method of Claim 14 wherein the primary receiver is a network analysis system.

17. The method of Claim 14 wherein the second node is a mobile unit.

18. The method of Claim 14, wherein the secondary signal is transmitted 9db or less than the primary signal.

19. In a wireless communication system having one or more repeaters, a first node and a second node, a method of determining if a signal received at the first node is received directly from the second node or via one of the one or more repeaters comprising;

creating, at the one or more repeaters, a secondary signal $s'(t)$ that is a function $f(i, s(t))$ of a primary signal $s(t)$ received from the second node and a known distortion, i, applied by the one or more repeaters, where i is unique for each of the one or more repeaters;

injecting the secondary signal $s'(t)$ into the primary signal $s(t)$ to form a first signal;

transmitting the first signal $w(t)$ to the first node;

detecting at the first node the primary signal $s(t)$;

removing the primary signal $s(t)$ to recover the secondary signal $s'(t)$;

determining a distortion from an inverse function $g(s'(t), s(t))$ of the secondary signal $s'(t)$ and the primary signal $s(t)$, where g is the inverse of f;

comparing the distortion i to the known distortions thereby determining if the signal is received via the one or more repeaters.

20. The method of Claim 19, wherein the one or more repeaters are synchronized.

21. The method of Claim 19, wherein the one or more repeaters are not synchronized.

22. The method of Claim 19, wherein the step of removing the primary signal includes nulling the primary signal *s(t)* from the first signal.

23. The method of Claim 19 wherein the first node is a network analysis system.

24. The method of Claim 19 wherein the second node is a mobile unit.

25. The method of Claim 19, wherein the primary signal is an uplink signal.

26. The method of Claim 19, wherein the primary signal is a downlink signal.

27. The method of Claim 19, wherein the first signal is amplified such that the ratio of the primary signal to the signature signal is greater than unity.

28. The method of Claim 19, wherein the known distortion is noise.

29. The method of Claim 19, wherein the known distortion is applied additively.

30. The method of Claim 19 where the known distortion is applied multiplicatively.

31. The method of Claim 1, wherein the primary receiver is a mobile unit

32. The method of Claim 1, wherein the primary transmitter is a network analysis system.

33. The method of Claim 19, wherein the first node is a mobile unit

34. The method of Claim 19, wherein the second node is a network analysis system.